

REMARKS

In response to the Final Official Action dated February 16, 2006, Applicants respectfully submit the present Amendment and Remarks, and reconsideration is respectfully requested.

Amendment to Specification

In the specification, the Abstract has been amended to clearly define the present invention. Specifically, the Abstract has been amended to recite that the present invention relates to a method for manufacturing a finished product having antibacterial activity comprising treating at least one face of a substrate comprising at least 50% by weight of cellulosic fibers with a composition containing as sole antimicrobial agent, a metal gluconate chosen in the group consisting of zinc gluconate, silver gluconate, copper gluconate or mixtures thereof. Support for this can be found throughout the specification, particularly at page 1, lines 27-31 and in the examples.

Amendment to Claims

Claims 1-20 are cancelled in the pending application. Claims 21 to 31 have been added and are currently pending in this application. Method Claims 21-31 has been added to clearly define the present invention. The method of Claims 21-31 is directed to a method for manufacturing the finished product of canceled Claims 6-20. Support for newly added Claims 21-31 can be found throughout the specification, particularly at page 1, lines 27-31 and in the examples.

Claimed Invention

The present invention, as claimed, is directed to a method for manufacturing a finished product having antibacterial activity comprising

treating at least one face of a substrate comprising at least 50% by weight of cellulosic fibers with a composition containing as sole antimicrobial agent, a metal gluconate chosen in the group consisting of zinc gluconate, silver gluconate, copper gluconate or mixtures thereof. The concentration of the antimicrobial agent in the finished product is of from about 0.01%-10% by weight or from about 0.05-1% by weight. The finished product can be a hand wipe, toilet paper, a handkerchief, an impregnated diaper, an absorbent pad for feminine hygiene, or a nonwoven or absorbent paper for meat trays. The impregnated diaper can be for a baby. The substrate can be a nonwoven based on paper fibers, obtained by the dry method. The antimicrobial agent can be zinc gluconate.

Summary of the Office Action

In the Office Action, the Examiner objected to the Abstract for containing less than 50 words. The Examiner also rejected Claims 6-8, 10-13, and 18-20 under 35 U.S.C. §102(b) as anticipated by or, in the alternative, under 35 U.S.C. §103(a) for being obvious over Sine et al. (USPN 6,183,766). In addition, the Examiner rejected Claims 9 and 14-17 under 35 U.S.C. §103(a) for being obvious over Sine et al. (USPN 6,183,766).

RESPONSE

Objection to the Abstract

The Abstract of the present application has been objected for containing less than 50 words. Applicants respectfully point out that the Abstract has been amended to clearly define the present invention by adding a paragraph reciting that the present invention relates to a method for manufacturing a finished product having antibacterial activity comprising

treating at least one face of a substrate comprising at least 50% by weight of cellulosic fibers with a composition containing as sole antimicrobial agent, a metal gluconate chosen in the group consisting of zinc gluconate, silver gluconate, copper gluconate or mixtures thereof. Therefore, the Abstract, as amended contains more than 50 words (and less than 150 words) as required by the Examiner.

Accordingly, Applicants respectfully request reconsideration and withdrawal of this objection.

Rejections under 35 USC §102(b) or §103(a)

In the Office Action, the Examiner also rejected Claims 6-8, 10-13, and 18-20 under 35 U.S.C. §102(b) as anticipated by or, in the alternative, under 35 U.S.C. §103(a) for being obvious over Sine et al. (USPN 6,183,766). The Examiner also rejected Claims 9 and 14-17 under 35 U.S.C. §103(a) for being obvious over Sine et al. (USPN 6,183,766). The Office Action alleges that Sine et al. disclose a composition comprising 0.1% to 10% zinc gluconate which "may be comprised within a substrate comprising at least 50% cellulosic fibers." Although the Examiner acknowledges that Sine et al. do not disclose that zinc gluconate can be used as an antimicrobial agent, the Examiner contends that because Sine et al. disclose an article for skin sanitizing, therefore zinc gluconate must have an inherent property of being an antimicrobial agent. The Examiner further contends that Thaman et al. (which is recited in the Sine et al. document and is incorporated therein) disclose a substrate that may be a nonwoven fiber and used as a sanitary article, baby article, and hand wipe. Therefore, the Examiner concludes that Sine et al. at

least disclose the claimed invention, or in the alternative, suggests the claimed invention.

The Examiner also allege that although Sine et al. do not disclose the use of a substrate as a food packaging article, an absorbent pad, or an impregnated diaper, it would have been obvious for one of skill in the art to use the substrate of Sine et al. in those recited products. Further, although the Examiner acknowledges that Sine et al. do not disclose “a substrate comprises from about 0.1% to about 10% by weight antimicrobial agent,” the Examiner alleges that a “prima facie case of either anticipation or obviousness” has been established and the burden is placed on the Applicants to rebut. Applicants respectfully traverse the above rejections and allegations.

As discussed above, the present invention, as claimed, is directed to a method for manufacturing a finished product having antibacterial activity comprising treating at least one face of a substrate comprising at least 50% by weight of cellulosic fibers with a composition containing as sole antimicrobial agent, a metal gluconate chosen in the group consisting of zinc gluconate, silver gluconate, copper gluconate or mixtures thereof.

Sine et al. neither teach nor disclose the claimed method of the present invention. Specifically, Sine et al. neither teach nor disclose a substrate containing a metal gluconate as the sole antimicrobial agent.

The composition disclosed in Sine et al. does not contain a metal gluconate as the sole antimicrobial. The composition disclosed in the Sine et al. document contains as its essential component an alcohol. Specifically, the composition disclosed in the Sine et al. document contains from 40% to 99%

of an antiseptic product, which is an alcohol. As well known in the art and as disclosed in the Sine et al. document an alcohol is not the same or essentially the same as a metal gluconate.

The term "antiseptic alcohol" is defined in column 2, lines 37-39 of the Sine et al. document. Sine et al. define an antiseptic alcohol is an alcohol or a combination of alcohols, which are effective at the employed concentration for killing microorganisms, for example, bacteria, with which it comes into contact.

Other essential components of the composition of Sine et al. are a lipophilic moisturizing agent for the skin and a degreasing agent.

Among the optional components, agents controlling odors are cited in the Sine et al. document. An example for controlling odors is zinc gluconate, which is introduced in the composition at concentrations of from about 0.1%-10%, preferably 0.2%-7%, and most preferably from 0.3%-5%. There is nothing in the Sine et al. document that teaches or suggests that zinc gluconate is used as an antimicrobial agent.

Further, the amount of zinc gluconate as disclosed by Sine et al. is not enough to be considered a sole agent in a composition. Hence, there is nothing in the Sine et al. document that teaches or suggests a composition containing a metal gluconate as the sole antimicrobial agent as claimed in the present invention.

Another optional component of Sin et al. is an antimicrobial agent introduced in the composition at a concentration of from 0.01%-5%, preferably from 0.05%-1%. Again, the amount of the optional antimicrobial agent of Sine et al. is not enough to be considered a sole agent in a composition. Hence,

Sine et al. do not teach or suggest a composition containing a metal gluconate as the sole antimicrobial agent as claimed in the present invention.

Among these antimicrobial agents cited in the Sine et al. document include antibacterial agents which are metal salts, in particular, zinc or copper salts. However, there is nothing in the Sine et al. document that teaches or discloses that a metal gluconate can be used as a sole agent, let alone a sole antimicrobial agent of a composition.

The Examiner contends that Sine et al. disclose compositions that may be incorporated in an insoluble substrate for application to the skin. The Examiner also contends that Thaman et al. (as cited in the Sine et al. document and as incorporated by reference therein) disclose a substrate, for example, based on cellulosic fibers. Therefore, the Examiner concludes that gluconates, at a concentration of 0.1%-10% by weight of the composition of Sine et al., have the inherent effect of being an antibacterial agent.

Again, Applicants respectfully point out the claimed invention, as recited in newly added Claims 21-31, recite a composition containing a metal gluconate as sole antimicrobial agent. In contrast, the gluconates as disclosed in the Sine et al. document are in the amount of 0.1%-10% by weight, and thus cannot be the sole antimicrobial agent, especially when the amount of gluconates used in the composition of Sine et al. is only in the concentration of 0.1%-10% by weight.

In addition, the antibacterial agent of Sine et al. is an alcohol and not a metal gluconate. As disclosed in the Sine et al. document, the antimicrobial agent is an alcohol used in very high proportions (44%-99%). Due to the high proportion of alcohol, the zinc gluconate of Sine et al. cannot possibly have its

own antibacterial effect, especially when it only exists in the amount of 0.1% to 10%.

Otherwise stated, in the Sine et al. document, the zinc gluconate cannot have an antibacterial effect because it is masked by the antibacterial effect of the alcohol. In other words, the antibacterial effect of zinc gluconate can be revealed only in the absence of alcohol.

Therefore, there is not an inherent effect of the zinc gluconate in the composition of Sine that could be considered as a sole antimicrobial agent. In the Sine et al. document, zinc gluconate is used and can be used only as described by Sine et al., i.e., as an agent controlling odors, and not a sole antimicrobial agent as claimed by the present invention.

The concentration of 0.1%-10% by weight in Sine is a concentration to be compared to the whole composition. This whole composition is then deposited on the substrate at a concentration which is not determined by Sine et al., but which is less than 100%. Thus, the real concentration of zinc gluconate as compared to the substrate plus whole composition is much lower than 0.1-10%, and cannot be the sole antimicrobial agent in the whole composition.

Therefore, the concentrations of metal gluconate in the claimed finished product of the present invention are higher than the concentration of zinc gluconate of Sine et al. One of ordinary skill would understand that there could not be any inherent property of zinc gluconate as disclosed by Sine et al. to be the sole antimicrobial agent in a composition. Therefore, the present invention, as recited in newly added Claims 21-31 is novel and not obvious in

view of Sine et al. because Sine et al. do not teach or disclose that a metal gluconate can be used as a sole antimicrobial agent in a composition.

In addition, Applicants respectfully point out that the present invention as claimed is novel because the claimed metal gluconates have an exceptional antibacterial activity and avoid the drying and burning effects of alcohol when in contact with the very fragile skin of babies (diapers) or of mucous membranes (toilet paper or absorbent pads). These drying and burning effects are encountered with the composition disclosed in Sine, which contains a high level of alcohol.


In view of the above, Applicants respectfully request reconsideration and withdrawal of these rejections.

CONCLUSION

In light of the foregoing amendments and remarks, Applicant respectfully submits that the application is now in condition for allowance. Should any minor matter remain, or should the Examiner feel that an interview would expedite the prosecution of this application; the Examiner is invited to call the undersigned at his convenience.

Respectfully submitted,

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